



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/692,913	10/24/2003	Ray Y. Lai	5681-66303	9034
58467 MHKKG/SUN P.O. BOX 398 AUSTIN, TX 78767	7590 12/07/2009		<div>EXAMINER</div> <div>WANG, JUE S</div>	
			<div>ART UNIT</div> <div>2193</div>	<div>PAPER NUMBER</div>
			<div>NOTIFICATION DATE</div> <div>12/07/2009</div>	<div>DELIVERY MODE</div> <div>ELECTRONIC</div>

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patent_docketing@intprop.com
ptomhkk@gmail.com

Office Action Summary

Application No.

10/692,913

Applicant(s)

LAI, RAY Y.

Examiner

JUE S. WANG

Art Unit

2193

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 September 2008.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-92 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-92 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/CDC)
4) ☐ Interview Summary (PTO-413)
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____
Paper No(s)/Mail Date _____

DETAILED ACTION

1. Claims 1-92 have been examined.
2. In response to the Pre-Brief Appeal Conference Request filed 9/26/2008, the Final Office Action dated 6/26/2008 is withdrawn and new grounds of rejection are presented in this current Office Action. In response to the petition for review of the restriction requirement dated 9/26/2008, the restriction requirement is withdrawn.

Double Patenting

3. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

4. Claims 1, 3, 8-10, 14, 17, 45, 47, 52-54, 56, 57, 69, 71, 76-78, 80, and 81 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 20, 23, 26-28, 35, 37, 38, 41, 44-46, 53, and 55 of co-pending application No. 10/642928.

5. The following is a side-by-side comparison between representative claim 20 of co-pending application No. 10/642928 and the representative claim 1 of the instant application.

claim 20 of co-pending application No. 10/642928	claim 1 of the instant application
20. A method, comprising:	1. A system for integrating Web Services with a business system, comprising: a processor; and a memory comprising program instructions, wherein the program instructions are executable by the processor to:
generating a vendor-independent Web Service architecture comprising a plurality of heterogeneous components of the business system in accordance with one or more integration design patterns,	generate an integrated Web Service architecture comprising a plurality of heterogeneous components of the business system in accordance with one or more integration design patterns;
wherein said generating a vendor-independent Web Services architecture comprises: generating one or more Use Cases for the Web Service;	wherein, to generate an integrated Web Service architecture, the program instructions are further executable by the processor to: generate one or more Use Cases for the integrated Web Service;
generating a high-level architecture for the Web Service, wherein the high-level	generate a high-level architecture for the integrated Web Service, wherein the high-

architecture identifies two or more entities of the Web Service and the relationships and interactions among the entities;	level architecture identifies two or more entities of the integrated Web Service and the relationships and interactions among the entities;
generating a logical architecture for the Web Service according to the use case scenarios, wherein the logical architecture identifies two or more logical components of the Web Service and the relationship among the logical components, and wherein the logical architecture comprises two or more layers; and implementing the Web Service according to the Web Service Architecture.	generate a logical architecture for the integrated Web Service according to the Use Cases, wherein the logical architecture identifies two or more logical components of the integrated Web Service and the relationship among the logical components, and wherein the logical architecture comprises two or more layers.

6. From the comparison above, the conflicting claims are not patentably distinct from each other even though they are not identical because both the present application and co-pending application No. 10/642928 describe a method of generating a web service architecture comprising a plurality of heterogeneous components in accordance with one or more design patterns, including generating one or more Use Cases, generating a high-level architecture for the web service, and generating a logical architecture for the web service. For example, the system of generating a web services disclosed in claim 1 of the present application is an obvious variation of the method for generating a web service as recited in claim 20 of co-pending

application No. 10/642928. While claim 20 of co-pending application No. 10/642928 does not specifically recite that the web service is integrated with a business system and the plurality of heterogeneous components are of a business system, it would have been obvious to one of ordinary skill in the art that at the time of the invention that the web service would be integrated with a business system since the web service is for a business service as recited in claims 26 and 27 of co-pending application No. 10/642928 and a web service providing business services would be integrated with a business system providing the business service. In addition, claim 8 of the instant application is an obvious variation of claim 23 of co-pending application claim 9 of the instant application is an obvious variation of claim 26 of co-pending application No. 10/642928, claim 10 of the instant application is an obvious variation of claim 27 of co-pending application No. 10/642928, claim 14 of the instant application is an obvious variation of claim 35 of co-pending application No. 10/642928, claim 17 of the instant application is an obvious variation of claim 28 of co-pending application No. 10/642928.

7. These are provisional obviousness-type double patenting rejections because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 101

8. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

9. Claims 45-92 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

10. Claims 45-68 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The current focus of the Patent Office in regard to statutory inventions under 35 U.S.C. § 101 for method claims is that to qualify as a § 101 statutory process, the claim should positively recite the other statutory class (the thing or product) to which it is tied, for example by identifying the apparatus that accomplishes the method steps, or positively recite the subject matter that is being transformed, for example by identifying the material that is being changed to a different state. In the present case, no other statutory classes is recited as all of the steps recited as part of the method (i.e., generating a web service architecture, one or more use cases, a high-level architecture, a logical architecture in claim 45 and defining integration tiers and organizing the components in claim 58) can be performed by a person using paper and pencil to specify the architectures, use cases, integration tiers, and the component organizations. In addition, no physical transformation is recited since the claims only recites the transformation of data in generating architectures and use cases and transformation of data is not considered as physical transformation which requires the transformation of an article or physical object into a different state.

11. With respect to claims 69-92, the “computer-accessible medium,” in accordance with applicant’s specification, may be a transmission media or communication media (see page 248, first paragraph of the specification). This subject matter is not limited to that which falls within a

statutory category of invention because it is not limited to a process, machine, manufacture, or a composition of matter. Instead, it includes a form of energy. Energy does not fall within a statutory category since it is clearly not a series of steps or acts to constitute a process, not a mechanical device or combination of mechanical devices to constitute a machine, not a tangible physical article or object which is some form of matter to be a product and constitute a manufacture, and not a composition of two or more substances to constitute a composition of matter.

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 1-3, 5, 6, 8-10, 13-24, 27-31, 33-35, 37-39, 41-43, 45-47, 49, 50, 52-54, 56-64, 67-71, 73, 74, 76-78, 80, 81 82-88, 91, and 92 are rejected under 35 U.S.C. 103(a) as being unpatentable over Curry et al. (US 2003/0233631 A1, hereinafter Curry), in view of Huang et al. "A Web Services-Based Framework for Business Integration Solutions" (hereinafter Huang).

14. As per claim 1, Curry teaches the invention as claimed, including a system for integrating Web Services with a business system, comprising:

a processor (see [0072], [0076]); and

a memory comprising program instructions (see [0072], [0076]), wherein the program instructions are executable by the processor to:

generate an integrated Web Service architecture comprising a plurality of heterogeneous components of the business system (see [0021], [0022], [0024]);

wherein, to generate an integrated Web Service architecture, the program instructions are further executable by the processor to:

generate one or more Use Cases for the integrated Web Service (see [0080]-[0084]);

generate a high-level architecture for the integrated Web Service, wherein the high-level architecture identifies two or more entities of the integrated Web Service and the relationships and interactions among the entities (see [0097]; EN: the context diagram describes the high level architecture); and

generate a logical architecture for the integrated Web Service according to the Use Cases, wherein the logical architecture identifies two or more logical components of the integrated Web Service and the relationship among the logical components, and wherein the logical architecture comprises two or more layers (see [0055]-[0059]; EN: the framework structure including a number of layers is the logical architecture).

Curry does not explicitly teach the web service architecture is generated in accordance with one or more integration design patterns.

Huang is cited to teach a method of developing web services based business integration using integration design patterns (see page 18, right column, paragraph 2, page 20, left column, paragraphs 2, 3, right column, paragraphs 1-3).

It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified Curry such that the web service architecture is generated in accordance with one or more integration design patterns as taught by Huang because design patterns are well known in the art and commonly used by programmers since design patterns provide the benefit of capturing a standard solution to a common programming problem for reuse.

15. As per claim 2, Curry teaches defining a plurality of integration tiers (i.e., logical layers of the application may be each physically separated or may be combined into components that include multiple logical layers, see [0151]), one or more basic components (see [0068], [0148]), and one or more Web Services technologies for integration ([0135], [0136]); and define how each of the plurality of integration tiers communicates with others of the plurality of integration tiers (i.e., the sub-architectures are linked using XML as a standard communication mechanism, see [0056], [0136], [0151]).

16. As per claim 3, Curry teaches wherein the plurality of integration tiers comprises one or more of: a client tier, a presentation tier, a business tier, an integration tier, and a resources tier (see [0016], [0056]-[0059]).

17. As per claim 5, Curry does not explicitly teach the business system is an Enterprise business system.

Huang teaches web services based integration of business solutions including an Enterprise business system (see page 17, right column, paragraph 2, Figure 2, page 18, right column, paragraph 2).

It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified Curry such that the business system is an Enterprise business system as taught by Huang because it is well known in the art that web services are provided for Enterprise business systems.

18. As per claim 6, Curry does not explicitly teach the business system is a Cross-Enterprise business system.

Huang teaches web services based integration of business solutions including a Cross-Enterprise business system (see page 16, right column, paragraph 3, bullet B.1, page 17, right column, paragraph 2, Figure 2, page 18, right column, paragraph 2).

It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified Curry such that the business system is a Cross-Enterprise business system as taught by Huang because it is well known in the art that web services are provided for Cross-Enterprise business systems.

19. As per claim 8, Curry does not explicitly teach the integrated Web Service architecture comprises: a service provider configured to provide one or more services on an integrated Web Service business system implemented according to the integrated Web Service architecture; and

one or more service requesters configured to access the one or more services from the service provider via a network.

Huang teaches the integrated Web Service architecture comprises: a service provider configured to provide one or more services on an integrated Web Service business system implemented according to the integrated Web Service architecture; and one or more service requesters configured to access the one or more services from the service provider via a network (see page 17, Figure 1, left column, paragraphs 1, 2).

It would have been obvious to one of ordinary skill in the art at the time of the invention that the Web Service architecture of Curry would have one or more service providers and one or more service requesters as taught by Huang since service providers and service requesters are part of a web services model well known in the art (see page 17, Figure 1, left column, paragraphs 1, 2 of Huang).

20. As per claim 9, Huang teaches wherein the integrated Web Service business system is a Business-to-Business system, wherein the service provider is a business service provider, and wherein the service requester is a business server (see page 16, right column, last paragraph, bullet B.1).

21. As per claim 10, Huang teaches wherein the integrated Web Service business system is a Business-to-Business system, wherein the service provider is a business service provider, and wherein the service requester is a business server (see page 16, right column, last paragraph, bullet B.3).

22. As per claim 13, Huang teaches the design patterns include one or more integration design patterns (see page 20, left column, paragraphs 2, 3, right column, paragraphs 1-3).

23. As per claim 14, Huang teaches the integration design patterns include an Application-to-Application design pattern (see page 20, left column, paragraph 1, Fig. 5; EN: the composite design pattern of the service composition is considered as an Application-to-Application pattern).

24. As per claim 15, Huang teaches the integration pattern includes an Open Process integration design pattern (see page 20, left column, paragraph 3, right column, paragraph 1; EN: the Mediator pattern is considered as an Open Process design pattern).

25. As per claim 16, Huang teaches wherein the design patterns include one of a Service Consolidation-Broker integration design pattern (see page 20, left column, first paragraph, bullet e), right column, paragraph 3; EN: the state pattern used in the Adaptive Document brokering service is considered as a Service Consolidation-Broker integration design pattern).

26. As per claim 17, Curry teaches the layers comprises a transport layer for delivering messages between components of the integrated Web Services (see [0136]); and a management layer configured for provisioning of the integrated Web Services and for monitoring and administration of the integrated Web Services (i.e., state/session, and user management functions, see [0028]).

27. As per claim 18, Curry teaches the invention as claimed, including a system for generating an integrated Web Service architecture, comprising:

a processor (see [0072], [0076]); and

a memory comprising program instructions (see [0072], [0076]), wherein the program instructions are executable by the processor to:

identify one or more components of the integrated Web Service architecture according to one or more use case requirements (see Fig 2, [0051], [0052], [0074]-[0080]);

define a plurality of integration tiers and one or more Web Services technologies according to a Web Services architecture integration framework (i.e., logical layers of the application may be each physically separated or may be combined into components that include multiple logical layers, see [0056]-[0059], [0151]);

define how each of the plurality of integration tiers communicates with others of the plurality of integration tiers according to the Web Services architecture integration framework (i.e., the sub-architectures are linked using XML as a standard communication mechanism, see [0056], [0136], [0151]);

organize the components according to the integration tiers and two or more layers of the integrated Web Service architecture (see [0057]-[0059], [0151]).

Curry does not explicitly teach applying one or more design patterns to the integrated Web Service architecture where appropriate.

Huang is cited to teach a method of developing web services based business integration using integration design patterns (see page 18, right column, paragraph 2, page 20, left column, paragraphs 2, 3, right column, paragraphs 1-3).

It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified Curry such that the web service architecture is generated in accordance with one or more integration design patterns as taught by Huang because design patterns are well known in the art and commonly used by programmers since design patterns provide the benefit of capturing a standard solution to a common programming problem for reuse.

28. As per claims 19-24 and 27-30, the limitations recited in these claims are substantially similar to those recited in claims 3, 5, 6, 8-10 and 14-17. Therefore, they are rejected using the same reasons as claims 3, 5, 6, 8-10 and 14-17.

29. As per claim 31, Curry teaches the invention as claimed, including an integrated Web Services business system, comprising:

a plurality of heterogeneous business components (see [0024]); and

a Web Service comprising one or more Web Services technologies and configured to provide interoperability among the plurality of heterogeneous business components via a network (i.e., web service applications are created by integrating the classes and components according to the business object framework, see [0024]);

wherein the integrated Web Services business system is configured according to a vendor-independent architecture framework for integrating Web Services technologies with business systems comprising a plurality of heterogeneous components in accordance with a structured integration methodology (i.e., a pre-built architecture that allows developers to rapidly create applications based on business components and web services, see [0055]-[0059]).

Curry does not explicitly teach that the integrated web services business system is configured according to one or more design patterns.

Huang is cited to teach a method of developing web services based business integration using integration design patterns (see page 18, right column, paragraph 2, page 20, left column, paragraphs 2, 3, right column, paragraphs 1-3).

It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified Curry such that the web service architecture is generated in accordance with one or more integration design patterns as taught by Huang because design patterns are well known in the art and commonly used by programmers since design patterns provide the benefit of capturing a standard solution to a common programming problem for reuse.

30. As per claims 33-35, 37-39, and 41, the limitations recited in these claims are substantially similar to those recited in claims 3, 5, 6, 8-10, and 14. Therefore, they are rejected using the same reasons as claims 3, 5, 6, 8-10, and 14.

31. As per claim 42, Curry is cited to teach the invention as claimed, including a system integrating Web Services with a business system, comprising:

means for generating an integrated Web Services architecture for a business system (see [0055]; EN: the pre-built architecture is a Web Services architecture);

means for applying a Web Services structured methodology to the integrated Web Service architecture (see [0055]-[0059]; and

means for implementing an integrated Web Service according to the integrated

Web Service architecture (see [0024]-[0027], [0062]-[0071]).

Curry does not explicitly teach that the integrated web services business system is configured according to one or more design patterns.

Huang is cited to teach a method of developing web services based business integration using integration design patterns (see page 18, right column, paragraph 2, page 20, left column, paragraphs 2, 3, right column, paragraphs 1-3).

It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified Curry such that the web service architecture is generated in accordance with one or more integration design patterns as taught by Huang because design patterns are well known in the art and commonly used by programmers since design patterns provide the benefit of capturing a standard solution to a common programming problem for reuse.

32. As per claim 43, Curry does not explicitly teach the business system is one of an Enterprise business system and a Cross-Enterprise business system.

Huang teaches web services based integration of business solutions including an Enterprise business system (see page 17, right column, paragraph 2, Figure 2, page 18, right column, paragraph 2) and a Cross-Enterprise business system (see page 16, right column, paragraph 3, bullet B.1, page 17, right column, paragraph 2, Figure 2, page 18, right column, paragraph 2).

It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified Curry such that the business system is an Enterprise business system as taught

by Huang because it is well known in the art that web services are provided for Enterprise business systems and Cross-Enterprise business system.

33. As per claims 45-47, 49, 50, 52-54, 56, and 57, the limitations recited in these method claims are substantially similar to those recited in claims 1-3, 5, 6, 8-10, 14, and 17. Therefore, they are rejected using the same reasons as claims 1-3, 5, 6, 8-10, 14, and 17.

34. As per claims 58-64 and 67-68, the limitations recited in these method claims are substantially similar to those recited in claims 18-24 and 27-28. Therefore, they are rejected using the same reasons as claims 18-24 and 27-28.

35. As per claims 69-71, 73, 74, 76-78, 80, and 81, the limitations recited in these computer-accessible medium claims are substantially similar to those recited in claims 1-3, 5, 6, 8-10, 14, and 17. Therefore, they are rejected using the same reasons as claims 1-3, 5, 6, 8-10, 14, and 17.

36. As per claims 82-88, 91, and 92, the limitations recited in these computer-accessible medium claims are substantially similar to those recited in claims 18-24, 27, and 28. Therefore, they are rejected using the same reasons as claims 18-24, 27, and 28.

37. Claim 4, 26, 32, 48, 66, 72, and 90 are rejected under 35 U.S.C. 103(a) as being unpatentable over Curry et al. (US 2003/0233631 A1, hereinafter Curry), in view of Huang et al.

“A Web Services-Based Framework for Business Integration Solutions” (hereinafter Huang), further in view of Connell et al. (US 2003/0074401 A1, hereinafter Connell).

38. As per claim 4, Curry and Huang do not explicitly teach integration of one or more Enterprise Application Interface (EAI) products with one or more Web Services technologies.

Connell teaches integration of one or more Enterprise Application Interface (EAI) products with one or more Web Services technologies (see [0002]).

It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified Curry and Huang to provide integration of one or more Enterprise Application Interface (EAI) products with one or more Web Services technologies as taught by Connell to provide communication between heterogeneous computers systems interconnected in a computer network such as EAI software and web services (see [0002] of Connell).

39. As per claims 26, 32, 48, 66, 72, and 90, the limitations recited in these claims are substantially similar to those recited in claim 4. Therefore, they are rejected using the same reasons as claim 4.

40. Claims 7, 11, 12, 25, 36, 40, 44, 51, 55, 65, 75, 79, and 89 are rejected under 35 U.S.C. 103(a) as being unpatentable over Curry et al. (US 2003/0233631 A1, hereinafter Curry), in view of Huang et al. “A Web Services-Based Framework for Business Integration Solutions” (hereinafter Huang), further in view of Chappell et al. “Java Web Services” (hereinafter Chappell).

41. As per claim 7, Curry and Huang do not explicitly teach wherein the plurality of heterogeneous components of the business system includes one or more legacy mainframe systems.

Chappell teaches web services with one or more legacy mainframe systems (section 2.1, paragraph 3).

It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified Curry and Huang such that the plurality of heterogeneous components of the business system includes one or more legacy mainframe system as taught by Chappell such that the web service can provide functions that are provided by legacy systems that already exist (see section 2.1, paragraph 3 of Chappell).

42. As per claims 11 and 12, Huang teaches the design patterns include one or more integration and interoperability design patterns including a asynchronous web service design pattern (i.e., asynchronous transaction support using the command pattern to encapsulate requests, see page 18, right column, paragraph 3, bullet 2, page 20, right column, paragraph 2). Huang does not explicitly teach the design pattern is directed to mainframes, however, it would have been obvious to one of ordinary skill in the art at the time of the invention that the design pattern for transaction could be directed to mainframes since web services are commonly provided for mainframe systems to access functionality provided by the mainframe system (see section 2.1, paragraph 3 of Chappell).

43. As per claims 25, 36, 44, 51, 65, 75, and 89, the limitations recited in these claims are substantially similar to those recited in claim 7. Therefore, they are rejected using the same reasons as claim 7.

44. As per claims 40, 55, and 79, the limitations recited in these claims are substantially similar to those recited in claim 12. Therefore, they are rejected using the same reasons as claim 12.

Conclusion

45. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Saimi et al. (US 2001/0047402 A1) is cited to teach a method for delivering web applications.
- Frankel et al. "Using Model-Driven Architecture to Develop Web Services", April 2002, IONA Technologies.
- Brown et al. "Using Service-Oriented Architecture and Component-Based Development to Build Web Service Applications" 2002, Rational Software White Paper.

46. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jue S. Wang whose telephone number is (571) 270-1655. The examiner can normally be reached on M-Th 7:30 am - 5:00pm (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lewis Bullock can be reached on 571-272-3759. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Lewis A. Bullock, Jr./
Supervisory Patent Examiner, Art Unit 2193

Jue Wang
Examiner
Art Unit 2193